An Automatic Face Detection for Video Indexing Application using Skin based Detection

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Abstract— The problem of face recognition is all about face detection. This is a fact that seems quite bizarre to new researchers in this area. However, before face recognition is possible, one must be able to reliably find a face and its landmarks. This is essentially a segmentation problem and in practical systems, most of the effort goes into solving this task. This paper explores the usability of face detection to find the faces in a video sequence and assign them to the different characters. An improved face detection method based on information of skin colour and depth is proposed in this paper. The face area was detected firstly by using the YCbCr colour space algorithm. Afterwards, segmentation algorithm, is performed in two stages, where the chrominance and luminance details is employed consecutively using colour segmentation approaches. Then region grouping is achieved using an adjacency criterion. The recognition phase of the model applied using Principal Component Analysis (PCA).

Keywords— Face Detection, Skin Based Detection.